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ABSTRACT

This study investigated the priorities in preservice and inservice teacher training for bilingual education in West Texas and Eastern New Mexico. In the report, trends in the provision of bilingual teacher training are reviewed, the development of a survey for school districts to identify specific training needs is described, and the study's findings are summarized. The survey development process involved: the development of a pool of subscaled questions; the development of questionnaire forms and a pool of instrument questions; the selection of bilingual education personnel to respond to the scale; administration of the scale; the development of computer programs for scoring and classification; and reliability and validity assessments. In the study, 200 bilingual personnel rated their competence and desire for training in 40 specific areas within 6 general areas. Results indicate priority training needs are in (1) evaluation techniques, (2) language, linguistics and content; (3) curriculum and instruction; and (4) culture, with (5) staff organization and (6) human skills ranked lower. The findings suggest that bilingual personnel need and wish preservice and inservice training in bilingual education. (MSE)

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A Study of the Training Needs in Preservice and Inservice Bilingual Education

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Over the past several years, there has been a continuing interest in preservice and inservice education, especially in bilingual programs. However, what are the exact priorities in bilingual preservice and inservice education? For American education overall, student achievement has clearly surfaced as the single most important outcome of schooling, and it is to that product end that teacher behavior has been directed. School districts themselves have responded to these educational pressures by calling for educational accountability. In equipping bilingual education personnel to meet these expectations, preservice and inservice education has become of even greater importance in the 1980s. The purpose of our article is three-fold. First, we examine the trends in preservice and inservice training over the past several years. Second, we trace the development of a bilingual preservice and inservice diagnostic instrument designed for school districts to use in assessing the training needs of their bilingual education personnel. Last, we report the findings of our recent study in West Texas and Eastern New Mexico in which we examined the training needs of bilingual education personnel.

The role of the teacher is complex and demanding. If teachers are to be effective, they are entitled to and can benefit from high-quality teacher preparation that begins with preservice education

and continues through induction (the first years of teaching) and inservice. The same is true for bilingual education teachers who have all of the duties of regular teachers plus some very specialized additional responsibilities. Bilingual education teachers must not only be strong educators, but must also be bilingual, bicultural, and specially trained in instructing children with limited English proficiency. With all of the additional demands placed on bilingual teachers, the need for strong teacher education programs tailored to the specific needs becomes crucial.

The purpose of this article is to discuss briefly the development of a bilingual diagnostic instrument designed to assess the training needs of bilingual teacher staffs, and to report what a sample of bilingual education personnel indicated to be their current inservice needs. However, before doing this, it will be helpful to consider the current status of bilingual teacher education and to examine the content and goals of the existing teacher education programs for preparing and assisting bilingual teachers.

CURRENT STATUS OF BILINGUAL TEACHER EDUCATION

Our society and our world are not becoming more homogeneous. If anything, both are more linguistically and culturally pluralistic now than ever before, according to Washburn (1982). As a result of this situation, both the need for and the presence of bilingual education programs continue to increase. In a recent national survey, 47 states reported that they provide some form of bilingual education in at least one school district. Eighteen states reported that they have certification requirements for bilingual education teachers, although 33 reported that they had none. Three states reported that certified bilingual education teachers were paid additional salary increments, whereas 43 states indicated they had no such provision. Thirty-six state departments of education indicated that institutions of higher education in their states offered teacher training programs in bilingual education (Nickel, 1982).

According to Washburn (1982), bilingual/bicultural programs are offered by institutions of higher education in 33 states, the District of Columbia, Guam, and the Virgin Islands. California had 50 schools with such programs; Texas was next with 24, followed by New York (22), Illinois (14), and Pennsylvania (11). A total of 226 bilingual/bicultural programs serving a total of 43,378 students were identified. The average program is seven years old and serves 228 students.

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Despite what may appear to be a great deal of activity, there still exists a serious shortage of qualified bilingual education teachers. According to a recent U.S. Department of Education report (Forum, 1983), education schools annually graduate only 1,900 teachers qualified to instruct limited-English-proficient students. At the same time, there is documented unmet demand for as many as 55,000 such teachers. In another national survey of the 50 state departments of education regarding bilingual education (Nickel, 1982), only two states reported that the supply of bilingual education teachers was adequate; 40 described the supply as inadequate.

Numerous school districts face critical shortages of bilingual teachers. For example, the Dallas Independent School District reported a shortage of 300 qualified bilingual education teachers, while Los Angeles had openings for up to 1,000 bilingual education teachers in recent years. Many districts facing such shortages are undertaking elaborate measures to recruit and retain competent bilingual teachers. For example, the Houston Independent School District, which faced the problem of a 45 percent turnover rate among bilingual education teachers (Walker de Felix, 1981), worked out a program with the University of Houston in which teachers received training leading to a master's degree with emphasis in bilingual education, and for which the district pays for tuition, fees and books. In return, the teachers agree to teach bilingual education classes in the district for two years following completion of their degrees. In addition, district teachers who retrain in bilingual education qualify for additional salary supplements through the Second Mile Plan, a program to compensate teachers for working in areas where extra effort is required.

PROGRAM CONTENT IN BILINGUAL TEACHER EDUCATION

From a survey of the current literature, there seems to be a consensus that high-quality bilingual teacher education programs should address four areas: (1) preparation in education and teaching, (2) the development of bilingualism among teachers, (3) training in special techniques for teaching children with limited English proficiency, and (4) the development of a sense of biculturalism and an appreciation for cultural diversity.

The ambitious goals of bilingual teacher education provide a challenge to balance the areas of need in designing a comprehensive program for bilingual education teachers. From the 226

bilingual/bicultural programs identified by Washburn (1982) in a survey of 3,038 postsecondary institutions in the nation, a total of 4,297 courses that focus on 42 ethnic groups were reported. Forty different languages were taught. In addition, 184 of the schools (81.4 percent) offered a total of 1,210 general or theoretical courses that provide conceptual orientations to bilingual/bicultural education. One hundred eighty schools (79.7 percent) offered a total of 864 courses dealing with methods or materials for bilingual/bicultural education. For practical experience, 142 schools (62.8 percent) offered student teaching, 138 (61.1 percent) offered practicum, and 88 (38.9 percent) offered internships in bilingual settings. The overwhelming majority of the bilingual/bicultural programs (80.1 percent) were focused on the Spanish language. Similarly, the study of Hispanic cultures also predominated; of the 209 schools that offer courses on the experiences of specific cultural and ethnic groups in the United States, 116 (55.5 percent) offered a total of 1,126 courses (26.8 percent of all such courses offered) on Mexican Americans.

Identification of the numbers and types of courses that constitute bilingual/bicultural programs is informative, but the content being taught in this wide array of course offerings remains a key issue. It is difficult to get a clear sense of this content from the literature, but a few sources offer insight into what they believe to be the goals of teacher education programs for bilingual teachers.

Casso and Gonzales (1974) wrote that bilingual education teachers should:

> believe that cultural diversity is a worthy goal; respect individual children and the culture they take to school; be assured that the culture children take to school is worth preserving and enriching; be aware that cultural and linguistic differences are obvious individual differences; be committed to promoting children's self-image; develop a positive self-concept of the individual's capacity to contribute to a bilingual bicultural program; be willing to learn more about bilingual bicultural education; have flexibility in human relations; possess the ability to share ideas; and inspire a confidence in children and their capacity.

Anderson (1981) focused on the bicultural aspects of training teachers to be bilingual/bicultural and summarized the qualities needed:

1) Having an understanding of another culture, that is, possession of factual information about the second culture,
2) Possessing empathy for the second culture,
3) Having experience working within a second cultural setting,

4) Displaying a positive attitude of acceptance, respect, and appreciation for the other culture,
5) Possessing conviction or recognition as to the legitimacy of the second culture,
6) Having the skill to be a cross-cultural interpreter who can minimize the inevitable conflicts between a dominant and a subordinate culture, and
7) Mastery of special methodologies based on the unique learning styles of the students of the other culture.

THE INSERVICE PLANNING SURVEY

The sheer number of qualities and competencies that bilingual bicultural teachers should possess is overwhelming, especially when one begins to identify the training needs of teachers involved. One such attempt at identifying these training needs was the development of a questionnaire, described in the following section, that focused on the inservice needs of teachers in six general areas: curriculum and instruction; evaluation techniques; human skills; staff organization; language, linguistics, and content; and culture. These six areas were selected because they span a wide array of competencies required of the effective bilingual/bicultural teacher.

When we began the task of identifying the training needs of bilingual personnel, our intent was to design a diagnostic instrument that school district officials could use to identify the specific training needs of their bilingual teachers.

The construction and administration of the instrument involved the following steps: (1) development of a pool of subscaled questions, (2) development of questionnaire forms and a pool of instrument questions, (3) selection of bilingual education personnel to respond to the scale, (4) administration of the scale, (5) development of computer programs for instrument scoring and classification procedures, and (6) reliability and validity assessments of the instrument.

Development of Initial Pool of Items

The questions were written using the standard domain-sampling model supported by Nunnally (1967) and Cronbach (1970). Initial questions addressing the six areas were written, scrutinized, and studied. Next, the pool of items was expanded. Finally, the questions were rewritten and revised. These final

revisions produced the pool of items contained in the bilingual instrument.

A questionnaire form employing a Likert format was developed for the pool of items. Lemon (1973) has stated that much of the experimental research pertaining to attitude change involves measuring attitudes by some simple, easily administered instrument, usually a rating-scale format, and then attributing changes or differences in the ratings to the experimental manipulations. In this context, the Likert scale of summative ratings is the most widely used attitude measure in current research. Gronlund (1976) stated that Likert's approach to attitude scaling was less time consuming in development than earlier methods such as Thurston's and Remmers'. Borg and Gall (1971) identified the Likert technique as the easiest method presently available for developing scales needed in attitude research.

McGinnies (1970) clarified the procedures involved in constructing a Likert scale. The first step involves the writing of a number of statements dealing with the topic under investigation. Respondents then indicate their reaction to each question on an interval scale. Severy (1973) added that it is assumed when a Likert scale is developed that all written questions reflect the same attitudinal dimensions. Advantages of the Likert scale are: (1) that construction is less time consuming and easier than are other scaling techniques, and (2) that fewer items are required to obtain higher correlation coefficients (Ahmann & Glock, 1975; Borg & Gall, 1974; Gronlund, 1976; Lemon, 1973; Shaw & Wright, 1967).

Shaw and Wright (1967) indicated that items should be written in simple and clear language, should contain a single idea, and should be unambiguous. Borg and Gall (1974) noted that an instrument dealing with attitudes would generally be constructed as an attitude scale and should include at least ten items to obtain a valid picture of the attitude concerned. Tittle and Hill (1967) investigated the predictive efficiency of four frequently used attitude measurement techniques in terms of predicting indices of voter behavior. The Thurston, Guttman, Likert, and semantic differential scales were compared. In Tittle and Hill's study, the Likert scale was superior to all other scales in predictive validity. Their evidence suggested that in cases in which the Likert and Thurston scales were of equal length, the Likert scale exhibited higher reliability.

A Likert discrepancy model was chosen because of its applicability in general or first-time assessment trials (Witkin, 1977). Discrepancy as defined by Tyler (1949) is understood to mean a difference between some standard of value and an actual status. Sarthory (1977) has defined a need as a quantifiable gap in attitude, achievement, or performance between the ideal and the real.

Kaufman (1972) and Southard (1974) have identified the four specific components in a discrepancy needs-assessment procedure: (1) determine desired conditions, (2) determine existing conditions, (3) analyze discrepancies between the actual and desired conditions, and (4) assign priorities to the discrepancies. These discrepancies constitute indices of need.

Within a discrepancy format, respondents rate specific statements on two 5-point quasi-Likert scales; one that concerns their perception of the degree to which a situation actually exists, and another that concerns their perception of the extent to which the situation is desired to exist. The discrepancy between the two scale values for a specific question is referred to as the need index.

The discrepancy format response mode included the following two-column response categories: (a) *competence*, consisting of the following scale: (1) no knowledge of, (2) knowledge of, (3) work with, (4) extensive work with, (5) expertise in, and (b) *training*, consisting of the following scale: (1) desire no training, skill unrelated, (2) desire no training, competency high, (3) desire awareness session, (4) desire training, and (5) desire further training. The competency column is the actual status of the skill or attitude whereas the training column is the desired status. The competency choices are placed to the left of the survey questions while the training choices are placed to the right. The respondent rates himself or herself in terms of present competency and desired training. Jenkins and Taber (1977) found that in an agree-disagree context the number of response categories about five did not, in any situation, yield a significant increase in Likert discriminability.

In recent years, a great deal of research has been done to establish the fact that response sets exist in questionnaire responses (Hand, 1964; Hand & Brazzell, 1965; Rosenwald, 1961; Ruebush, 1963). Kerlinger (1973) has added, however, that he believes response sets are only a mild threat to valid measurement, and that their importance has been overestimated. The available evidence, he asserts, does not justify the strong negative assertions made by response-set enthusiasts. Because of this, we

did not randomly assign questions to the instrument. However, specific questions that assessed curriculum and instruction, human skills, staff organization, evaluation techniques, culture, or language, linguistics, and content were in no way identified in the survey instrument itself. Furthermore, the questions were all worded in a positive sense without reversing question polarity.

It was our intent to limit the length and complexity of the instrument so that 90 percent of the participants could complete the survey in less than 30 minutes (Cronbach, 1970).

Development of the Instrument Form

An introductory paragraph in the questionnaire explained the purpose of the instrument distribution. It stated that district officials were gathering information pertaining to the teachers' knowledge of various skills and their desire for training. Immediately following were directions pertaining to the completion of the questionnaire and definitions of the terms used.

Selection of Respondents and Scoring Procedures

All respondents were bilingual education personnel from a New Mexico school district and all Texas school districts served by the Education Service Center, Region XVII. The total sample size was 200. This number was arrived at by having at least five times as many participants as instrument questions (Lemke & Wiersma, 1976; Nunnally, 1970).

The questionnaire was scored by calculating a correlated *t* test score as the need index. The literature of statistical procedures is replete with descriptions of and deprivations for this procedure (Hicks, 1973; Hinkle & Wiersma, 1979; Kerlinger, 1973; Kirk, 1968).

Analysis of the Instrument Itself

As an *a posteriori* procedure, a construct validity was examined through a factor analysis of the diagnostic instrument (Spanier, 1976). The construct validity of a test is the extent to which the test may be said to measure a theoretical construct or trait (Anastasi, 1976). Essential to the notion of construct validity is the internal consistency of the items (Nunnally, 1967). Of particular relevance to construct validity is factor analysis. Lemke & Wiersma (1976) stated that factor analysis is in fact a method for establishing construct validity. Essentially, factor analysis is the refined technique for analyzing the interrelationships of

behavioral data, simplifying the description of data by reducing the number of necessary variables or dimensions (Anastasi, 1976; Kim & Mueller, 1978). The factoring method used was PA2 (principal factoring using iteration) with the varimax criterion specified as the method of orthogonal rotation (Nie, Hull, Jenkins, Steinbrenner, & Brent, 1975). Three present-status scales (PRE) and three desired status scales (DES) emerged. The PRE and DES factors were paired and common questions were extracted. This procedure reduced the common factors to two.

We found that curriculum and instruction, human skills, and staff organization were subsumed under one factor. Evaluation techniques, culture and language, linguistics, and content were subsumed under a second factor. The correlation of the two factors was 0.352. Higher-order factoring was not performed.

FINDINGS OF THE STUDY

Two hundred bilingual personnel rated the 40 questions on two five-point quasi-Likert scales: *Competence* and *Training*. The competency column is the "actual status" while the training column is the "desired status."

When the data were compiled, tabulations of the teachers' responses were computer scored, using a correlated t test. This process established a need index based on the number of standard deviations from the present competency (where the participant presently is) to the desired training (where the participant wishes to be). The greater the index, the greater the need for training. A negatively signed index indicates no need for training.

The questions, or items, on the instrument pertained to one of the following six general areas: (1) curriculum and instruction; (2) evaluation techniques; (3) human skills; (4) staff organization; (5) language, linguistics and content; and (6) culture. All the data then were ranked according to the correlated t test results. Table 1 outlines the findings of the study.

The data for five of the six areas were significant statistically at $p \leq .001$. Overall (1) evaluation techniques, (2) language, linguistics and context, (3) curriculum and instruction, and (4) culture were ranked very closely as priority training-need areas.

In addition, the correlated t-test-value for each question on the instrument was calculated. The highest-ranked question pertained to the ability to adapt instruction for the gifted and talented student. Next was a question pertaining to diagnosing learning problems and prescribing instruction. Third in need was a question pertaining to the acquisition of two language systems.

TABLE 1

Correlated *t*-Test Values for the Six General Training Needs

Rank	Training Need	*t* Value	2-tail *p*
1	Evaluation Techniques	6.83	0.000
2	Language, Linguistics and Content	6.75	0.000
3	Curriculum and Instruction	6.57	0.000
4	Culture	4.77	0.000
5	Staff Organization	3.51	0.001
6	Human Skills	1.33	0.186

This was followed by a question that referred to involving parents in the instructional program. Concern about the quality of the instructional program in the surveyed schools clearly emerged as a global concern in this pool of individual questions.

The findings of our study reinforced our own observations that bilingual personnel need and desire preservice and inservice training in bilingual education. In addition to the tasks of evaluation and teaching language, bilingual education personnel express a desire for training in the areas of curriculum and instruction, culture, and staff organization. These findings are of educational value in that they help target bilingual training needs for the 1980s.

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